

wherein said second lens unit moves to the image side for zooming from the wide-angle end to the telephoto end and said fourth lens unit moves for zooming.

45. (New) A camera comprising:
a zoom lens according to claim 44; and
an image pickup element, said image pickup element receiving an image formed by said zoom lens.--

REMARKS

Reconsideration and allowance of the subject application are respectfully solicited.

Claims 12 through 18, 20, 23 through 34, 36 through 38, and 40 through 45 are pending, with Claims 12, 23, 36, 37, 38, 40, 41, 43, and 44 being independent. Claims 12 through 18, 20, 23 through 26, 28 through 34, 36 through 38, and 41 through 43 were allowed. Claim 39 has been cancelled without prejudice. Claims 12, 40, and 41 have been amended, with Claim 40 having been rewritten in independent form. Claims 44 and 45 have been added.

In a formal matter, Applicant respectfully notes that U.S. Patent No. 5,798,872 (Uzawa), which was relied upon in the August 8, 2002, Official Action, does not appear to have been cited on a Form PTO-1449 or PTO-892; accordingly, Applicant has attached hereto a Form PTO-1449 listing the same so that Uzawa may be formally made of record. Favorable consideration is earnestly solicited.

Claim 39 was rejected under 35 U.S.C. § 103 over U.S. Patent No. 6,226,130 (Mukaiya, et al.) in view of U.S. Patent No. 5,798,872 (Uzawa). Claim 40 was objected to and indicated as being allowable if rewritten in independent form. All rejections and objections are respectfully traversed and are submitted to have been obviated by the cancellation without prejudice of Claim 39 and the rewriting of Claim 40 in independent form.

Claim 44 recites, inter alia, (a) at least one of the three negative lenses and one positive lens (of the second lens unit) being an aspherical lens, and (b) the third lens unit comprising a positive lens with an aspherical surface closest to the object side, in combination with (c) the negative lens of the cemented lens of the fourth lens unit being cemented with the image side of the positive lens of the cemented lens.

However, Applicant respectfully submits that neither Mukaiya, et al. nor Uzawa, even in combination, assuming, arguendo, that the documents could be combined, discloses or suggests at least the above-discussed combination of claimed features as recited, inter alia, in Claim 44. It is further respectfully submitted that there has been no showing of any indication of motivation in the cited documents that would lead one having ordinary skill in the art to arrive at such a combination of claimed features.

The dependent claims are also submitted to be patentable because they set forth additional aspects of the present invention and are dependent from independent claims discussed above. Therefore, separate and individual consideration of each dependent claim is respectfully requested.

Applicant submits that this application is in condition for allowance, and a Notice of Allowance is respectfully requested.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,



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Appln. No. 09/698,115

Atty. Docket No. 00865.004345.1

(865.4345 DI)

MARKED-UP CLAIM SHEET

12. (Three Times Amended) A zoom lens comprising, in order from an object side to an image side,

a first lens unit of positive refractive power,

a second lens unit of negative refractive power,

a third lens unit of positive refractive power, and

a fourth lens unit of positive refractive power, zooming from a wide-angle end to a telephoto end being effected by moving said second lens unit toward the image side, and shifting of an image plane due to zooming being compensated for by moving said fourth lens unit,

wherein said second lens unit consists of four [single] lenses including three negative lenses and one positive lens, and at least one of said four [single] lenses is an aspherical lens, and

wherein the zoom lens satisfies the following condition:

$$1.28 < |R24/R25| < 3.20$$

where R24 and R25 are radii of curvature of the fourth and fifth lens surfaces, respectively, when counted from the object side, in said second lens unit.

40. (Amended) A zoom lens [according to claim 39, satisfying] comprising, in order from an object side to an image side,

a first lens unit of positive refractive power,

a second lens unit of negative refractive power,

a third lens unit of positive refractive power, and

a fourth lens unit of positive refractive power, zooming from a wide-angle end to a telephoto end being effected by moving said second lens unit toward the image side, and shifting of an image plane due to zooming being compensated for by moving said fourth lens unit,

wherein said second lens unit consists of four single lenses including three negative lenses and one positive lens,

wherein for the third lens in order from the object side of said four single lenses, a surface of the object side is an aspherical surface, and

wherein the following condition is satisfied:

$$0.25 < |f_2/f_A| < 0.41$$

where

$$f_A = \sqrt{f_w \cdot f_t}$$

wherein f_2 is a focal length of said second lens unit, and f_w and f_t are focal lengths in the wide-angle end and the telephoto end of said zoom lens, respectively.

41. (Twice Amended) A zoom lens comprising, in order from an object side to an image side,

a first lens unit of positive refractive power,

a second lens unit of negative refractive power,

a third lens unit of positive refractive power, and

a fourth lens unit of positive refractive power, zooming from a wide-angle end to a telephoto end being effected by moving said second lens unit toward the image side, and shifting of an image plane due to zooming being compensated for by moving said fourth lens unit,

wherein said second lens unit consists of four [single] lenses including three negative lenses and one positive lens, and at least one of said four [single] lenses is an aspherical lens,

wherein the zoom lens satisfies the following condition:

$$0.25 < |f_2/f_A| < 0.41$$

where

$$f_A = \sqrt{f_w \cdot f_t}$$

wherein f_2 is a focal length of said second lens unit, and f_w and f_t are focal lengths in the wide-angle end and the telephoto end of said zoom lens, respectively.

FORM PTO 1449 (modified) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE LIST OF REFERENCES CITED BY APPLICANT(S) (Use several sheets if necessary)		ATTY DOCKET NO. 00865.004345.1 (865.4345DI)		APPLICATION NO. 09/698,115			
Submitted to the PTO: December 9, 2002		APPLICANT AKIHISA HORIUCHI					
		FILING DATE October 30, 2000		GROUP 2873			
U.S. PATENT DOCUMENTS							
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		5,798,872	8/25/98	Uzawa	359	686	
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES/NO/ OR ABSTRACT
OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)							
EXAMINER				DATE CONSIDERED			

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.